

**To:** Greenberg, Marc[Greenberg.Marc@epa.gov]; Woolford, James[Woolford.James@epa.gov]  
**Cc:** Woodyard, Josh[Woodyard.Joshua@epa.gov]; Schlieger, Brian[schlieger.brian@epa.gov];  
Heimerman, Jeffrey[Heimerman.Jeff@epa.gov]; Tulis, Dana[Tulis.Dana@epa.gov]  
**From:** Cheatham, Reggie  
**Sent:** Tue 8/11/2015 2:26:42 PM  
**Subject:** RE: Draft language on mine sediment monitoring

Good deal and Jim agreed to get concurrent feedback from Mathy and the front office

Reggie Cheatham, Acting Director

Office of Emergency Management, USEPA

202.564.8003 (O); 202.689.9400 (M);

cheatham.reggie@epa.gov

**From:** Greenberg, Marc  
**Sent:** Tuesday, August 11, 2015 10:22 AM  
**To:** Woolford, James  
**Cc:** Cheatham, Reggie; Woodyard, Josh; Schlieger, Brian; Heimerman, Jeffrey; Tulis, Dana  
**Subject:** Re: Draft language on mine sediment monitoring

All,

I contacted Steve for his assistance.

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Marc S. Greenberg, Ph.D.

Deputy Branch Chief

U.S. EPA

Environmental Response Team

609-865-3924 cell

Message sent via EPA wireless device

On Aug 11, 2015, at 10:16 AM, Woolford, James <[Woolford.James@epa.gov](mailto:Woolford.James@epa.gov)> wrote:

Pls coordinate with Steve Ells

Jim Woolford, Director

Office of Superfund Remediation and Technology Innovation

Office of Solid Waste and Emergency Response

US Environmental Protection Agency

1200 Penn. Ave., NW

Washington, DC 20460

(Mail Code 5201-P)

Phone: (703) 603 8960– Main Office Line

Physically located at:

Room 5622

One Potomac Yard (South)  
2777 S. Crystal Dr.  
Arlington, VA 22202



**From:** Greenberg, Marc  
**Sent:** Tuesday, August 11, 2015 10:15 AM  
**To:** Cheatham, Reggie  
**Cc:** Woodyard, Josh; Schlieger, Brian; Heimerman, Jeffrey; Tulis, Dana; Woolford, James; Heimerman, Jeffrey  
**Subject:** Re: Draft language on mine sediment monitoring

Thanks Reggie. We're glad to assist. Edit at will. If there are any questions, please don't hesitate to call.

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Marc S. Greenberg, Ph.D.

Deputy Branch Chief

U.S. EPA

Environmental Response Team

609-865-3924 cell

Message sent via EPA wireless device

On Aug 11, 2015, at 10:10 AM, Cheatham, Reggie <[cheatham.reggie@epa.gov](mailto:cheatham.reggie@epa.gov)> wrote:

Marc

This follows what I think Mathy is looking for....I will do a check in....the only thing I

may need to do is to make sure it aligns with the style of communications for the other pieces they are pulling together. Many thanks on the quick turnaround after our call this morning. Stay tuned

Reggie Cheatham, Acting Director

Office of Emergency Management, USEPA

202.564.8003 (O); 202.689.9400 (M);

[cheatham.reggie@epa.gov](mailto:cheatham.reggie@epa.gov)

**From:** Greenberg, Marc  
**Sent:** Tuesday, August 11, 2015 9:57 AM  
**To:** Woodyard, Josh; Schlieger, Brian  
**Cc:** Heimerman, Jeffrey; Cheatham, Reggie  
**Subject:** Draft language on mine sediment monitoring

Pasted below and attached is a draft for our consideration. Please call me if you have questions or need clarification.

One talking point that I will share with you here is that the language on "...adaptive approach for future monitoring." This is meant to describe that all ongoing and planned sampling will be modified as necessary based on empirical results, comparison with indicators/trigger levels, regulatory requirements, and new knowledge that is gained from independent sources. This is a similar approach that was described for the Deepwater Horizon long term monitoring plan we developed under the Operational Science Advisory Team in the UAC-New Orleans.

Here is the text to review:

**Approach for Sediment Monitoring in the Aftermath of the 2015 Gold King Mine Blowout**

The EPA *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites* (EPA-540-R-05-012, OSWER 9355.0-85, 2005) was developed to provide technical and policy guidance for project managers and management teams making remedy decisions for contaminated sediment sites. Although this guidance is predominantly used in the Superfund remedial program, it provides relevant information applicable to the development of an approach for sediment monitoring in the aftermath of the emergency response associated with the Gold King Mine blowout. The guidance outlines several key questions that should be considered for a sediment monitoring program that focus on its purpose, sampling and analysis details, temporal and spatial domains for the sampling, trigger levels for action or termination of the program, and communication of the results with the public. EPA will build upon previous data (i.e., baseline conditions) and existing sampling efforts in the impacted river system (Animas and San Juan Rivers) to develop a scientifically-based adaptive approach for future monitoring of the ecosystem status or recovery. The monitoring plan will describe the sampling of sediment and water throughout the system and may include focused biological sampling efforts, where appropriate. The comparison of the monitoring results to pre-incident data will be a critical determinant for decision making.